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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/728,415

12/05/2003

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EXAMINER

RODRIGUEZ, WILLIAM H

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

08/01/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/728,415

Applicant(s)

REALE ET AL.

Examiner

William H. Rodriguez/

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/5/03; 4/23/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group II in the reply filed on 06/22/2007 is acknowledged. The traversal is on the ground(s) *"that these groups are related in that they use an intercooled gas turbine engine to accomplish an energy transfer to a heating district or for adjusting the output of the intercooler and gas turbine engine"*. These arguments are found *persuasive in part* with regards to groups I and II as being related to each other. However, group III does not require the particulars (a heating district) of groups I and II for patentability. Likewise, groups I and II do not require "varying the amount of energy removed by the at least one intercooler" for patentability. Therefore, groups I and II (claims 1-15) are being examined but the restriction with respect to group III (claim 16) is still deemed proper and is therefore made FINAL.

Claim Objections

2. Claim 14 recites the limitation "the intercooler" in line 1. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

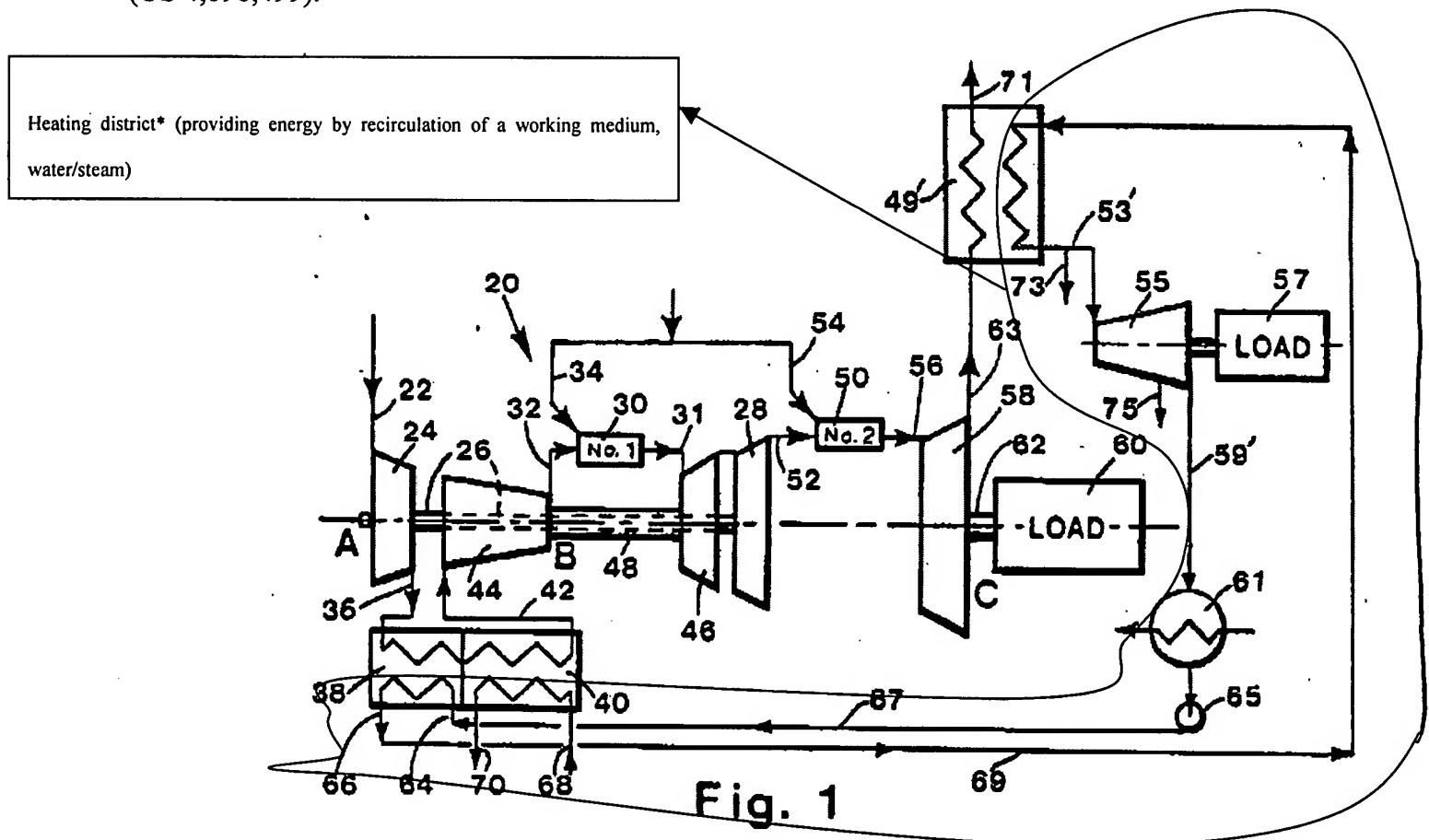
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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With respect to claims 4 and 11, the recitation “the fluid circulation loop is connected to at least one previously existing district heating system” does not positively recite a structural limitation except for the fluid circulating loop, but a desired use of said loop. A recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the structural limitations of the claims, as is the case here.

4. Claims 1, 4-9 and 11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Rice (US 4,896,499).



Rice (particularly figure 1) teaches a system comprising: a gas turbine including a compressor 24, 44 and an intercooler 38, 40, said intercooler extracting heat from a compressed

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air stream from said compressor; and at least one circulating working fluid loop (66, 67, 69, 53', 59') for transferring the extracted heat from the intercooled compressed air stream to a heating district*(see note below), wherein said heating district has an additional source of energy (exhaust gases 63), said working fluid comprises water/steam (55 is a steam turbine). Notice that Rice teaches a heating district as defined by applicant in the specification.

***Note:** Applicant's definition (page 4 lines 1-5 of the specification) of a heating district is as follows: a heating district is not limited to a groups of buildings, but can also be defined as *any venue requiring energy* where the energy is made available by supplying it from a remote location by the circulation of a working medium or working fluid such as water, steam, gas, or some other heat transfer medium (i.e., steam for cleaning a ship, heating cabins, cooking).

Since Rice has the same structure as claimed, it is inherent that Rice's device would be able to perform the recited method steps.

5. Claims 1, 4, 8, 11, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Foster-Pegg (US 3,796,045).

Foster-Pegg (particularly figure 1) teaches a system comprising: a gas turbine, an intercooler 20 extracting heat from a compressed air stream (air from compressor 15); and at least one circulating working fluid loop 18 for transferring the extracted heat from the intercooled compressed air stream to a heating district* 19 (see note below). Notice that Foster-Pegg teaches a heating district as defined by applicant in the specification.

***Note:** Applicant's definition (page 4 lines 1-5 of the specification) of a heating district is as follows: a heating district is not limited to a groups of buildings, but can also be defined as *any venue requiring energy* where the energy is made available by supplying it from

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a remote location by the circulation of a working medium or working fluid such as water, steam, gas, or some other heat transfer medium (i.e., steam for cleaning a ship, heating cabins, cooking).

Since Foster-Pegg has the same structure as claimed, it is inherent that Foster-Pegg's device would be able to perform the recited method steps.

6. Claims 1, 2, 4, 8, 11, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Singleton (US 2,409,159).

Singleton (particularly figure 2) teaches a system comprising: a gas turbine, an intercooler 27 extracting heat from a compressed air stream; and at least one circulating working fluid loop for transferring the extracted heat from the intercooled compressed air stream to a heating district* 1 (see note below), wherein the energy delivered to the heating district is used for space heating. Notice that Singleton teaches a heating district as defined by applicant in the specification.

***Note:** Applicant's definition (page 4 lines 1-5 of the specification) of a heating district is as follows: a heating district is not limited to a groups of buildings, but can also be defined as *any venue requiring energy* where the energy is made available by supplying it from a remote location by the circulation of a working medium or working fluid such as water, steam, gas, or some other heat transfer medium (i.e., steam for cleaning a ship, heating cabins, cooking).

Since Singleton has the same structure as claimed, it is inherent that Singleton's device would be able to perform the recited method steps.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 2, 4, 6-11 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunderman (US 4,279,574) in view of either Rice'499 or Singleton'159.

Kunderman (particularly figure 1) teaches a system comprising: a compressor 10, at least one intercooler (22, 28, 34), said intercooler extracting heat from a compressed air stream from said compressor; and at least one circulating working fluid loop (40-44, 48-52, 56 and 60) for transferring the extracted heat from the intercooled compressed air stream to a heating district* 58 (see note below), wherein the energy delivered to the heating district is used for space heating (see lines 6-7 of abstract; cl. 1 ll. 5-12), said system further comprising a reservoir 46 of working fluid for adding fluid to said fluid circulation loop, said working fluid comprises water/steam. Notice that Kunderman teaches a heating district as defined by applicant in the specification.

Kunderman teaches that the heart of the invention is using an intercooler for extracting heat from a compressed air stream and using said extracted heat by said working cooling fluid (water/steam) for space heating (office and the like). See cl. 1 ll. 15-19.

Kunderman schematically shows a driver 18 provided for causing rotation of compressor 10. However, Kunderman also teaches that the invention can be utilized with compressors or the like. (cl. 3 ll. 51-53). Either Rice or Singleton teaches a system where a gas turbine is used for causing rotation of the compressor and for generating electrical power. Therefore, it would have

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been obvious to one of ordinary skilled in the art at the time the invention was made to have used the teaching of either Rice or singleton and have used a gas turbine as the driver for causing rotation of Kunderman's compressor 10 because at the same time the turbine could have been used to generate power for said space (building) being heated by the extracted heat from the compressed air.

***Note:** Applicant's definition (page 4 lines 1-5 of the specification) of a heating district is as follows: a heating district is not limited to a groups of buildings, but can also be defined as *any venue requiring energy* where the energy is made available by supplying it from a remote location by the circulation of a working medium or working fluid such as water, steam, gas, or some other heat transfer medium (i.e., steam for cleaning a ship, heating cabins, cooking).

Since Kunderman has the same structure as claimed, it is inherent that Kunderman's device would be able to perform the recited method steps.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Rodríguez whose telephone number is 571-272-4831.

The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William H. Rodriguez/
Primary Examiner
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7/24/07